

AMENDMENTS TO THE CLAIMS

In the Claims:

1. (currently amended) A recombinant *E. coli* host cell comprising one or more expression vectors, said expression vectors comprising alone or in combination:

(a) methylmalonyl CoA mutase genes *mutA* and *mutB* from either *Propionibacterium shermanii* (~~SEQ ID No. 1 and 2~~) or *Streptomyces cinnamomensis* (~~SEQ ID No. 3 and 4~~), and

(b) a *Propionibacterium shermanii* epimerase gene having the nucleotide sequence given in ~~SEQ ID NO:5~~ SEQ ID NO:1, and

at least one modular polyketide synthase (PKS) gene,

wherein the ~~products of proteins encoded by~~ said methylmalonyl CoA mutase and epimerase genes are effective to produce S-methylmalonyl CoA required for biosynthesis of a polyketide produced by a modular polyketide synthase (PKS) produced by ~~at least one~~ the PKS gene in said host cell,

said PKS gene being contained in a vector that replicates extrachromosomally or is integrated into chromosomal DNA of such host cell,

wherein said host cell, in the absence of said expression vectors, is unable to make said polyketide.

2-16. (canceled)

17. (previously presented) The host cell of Claim 1 in media that contains hydroxocobalamin.

18-23. (canceled)

24. (currently amended) An *E. coli* host cell that expresses

methyalmalonyl CoA mutase genes mutA and mutB from either *Propionibacterium shermanii* (~~SEQ ID NOs: 1 and 2~~) or *Streptomyces cinnamonensis* (~~SEQ ID NOs: 3 and 4~~), and

a *Propionibacterium shermanii* epimerase gene having the nucleotide sequence given in ~~SEQ ID No. 5~~ SEQ ID No. 1, and

said host cell further expresses a modular polyketide synthase (PKS) gene or genes,

said PKS gene or genes contained in a vector that replicates extrachromosomally or is integrated into chromosomal DNA.

25. (canceled)

26. (previously presented) The host cell of Claim 1 that comprises two expression vectors, one of which is integrated into chromosomal DNA of said cell.

27. (previously presented) The host cell of Claim 1 that comprises two expression vectors, one of which is a plasmid.

28. (currently amended) The host cell of Claim 1, wherein said methyalmalonyl CoA mutase genes are the *Propionibacterium shermanii* methyalmalonyl CoA mutase genes mutA and mutB (~~SEQ ID NOs: 1 and 2~~).

29. (currently amended) The host cell of Claim 1, wherein said methyalmalonyl CoA mutase genes are the *Streptomyces cinnamonensis* methyalmalonyl CoA mutase genes mutA and mutB (~~SEQ ID NOs: 3 and 4~~).

30. (previously presented) The host cell of Claim 1, wherein one or more of said genes is under control of a promoter from an *E. coli* gene.

31. (previously presented) The host cell of Claim 1, wherein said PKS is 6-deoxyerythronolide B synthase.
32. (currently amended) The host cell of Claim 17, wherein said methylmalonyl CoA mutase genes are the *Propionibacterium shermanii* methylmalonyl CoA mutase genes mutA and mutB (~~SEQ ID NOs: 1 and 2~~).
33. (currently amended) The host cell of Claim 17, wherein said methylmalonyl CoA mutase genes are the *Streptomyces cinnamonensis* methylmalonyl CoA mutase genes mutA and mutB (~~SEQ ID NOs: 3 and 4~~).
34. (currently amended) The host cell of Claim 17, wherein one or more of said genes is under control of a promoter from an *E. coli* gene ~~or a gene~~.
35. (previously presented) The host cell of Claim 17, wherein said PKS is 6-deoxyerythronolide B synthase.
36. (currently amended) The host cell of Claim 24, wherein said methylmalonyl CoA mutase genes are the *Propionibacterium shermanii* methylmalonyl CoA mutase genes mutA and mutB (~~SEQ ID NOs: 1 and 2~~).
37. (currently amended) The host cell of Claim 24, wherein said methylmalonyl CoA mutase genes are the *Streptomyces cinnamonensis* methylmalonyl CoA mutase genes mutA and mutB(~~SEQ ID NOs: 3 and 4~~).
38. (previously presented) The host cell of Claim 24, wherein one or more of said genes is under control of a promoter from an *E. coli* gene.
39. (previously presented) The host cell of Claim 24, wherein said PKS is 6-deoxyerythronolide B synthase.

40. (canceled) A method for producing a polyketide, which method comprises culturing the host cell of Claim 38 under conditions such that said PKS gene is expressed to produce a functional PKS, said S-methylmalonyl CoA is produced, and said functional PKS synthesizes a polyketide that incorporates said S-methylmalonyl CoA.